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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* YILIN ZHAO, THOMAS M. KING,  
and GEORGE J. GEIER

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Appeal 2008-2857  
Application 09/785,960  
Technology Center 2600

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Decided: September 23, 2008

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Before KENNETH W. HAIRSTON, SCOTT R. BOALICK, and JOHN A. JEFFERY, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal the Examiner's rejection of claims 16-18 under 35 U.S.C. § 134. Claims 1-10 and 25-28 have been indicated as containing allowable subject matter. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM. We also enter a new ground of rejection under 37 C.F.R. § 41.50(b).

## STATEMENT OF THE CASE

Appellants invented a method, a satellite positioning system identifier, and a satellite positioning system tag for transmitting information to a mobile station in a cellular communication network. The identifier and tag include fields with satellite identifier, ephemeris, and almanac data and can be stored on a computer readable medium. The identifier and tag are used to determine whether the satellite positioning system data needs to be updated.<sup>1</sup> Representative claim 16 is reproduced below:

16. A satellite positioning system ephemeris data issue identifier stored on a computer-readable medium for transmission to a satellite positioning system enabled mobile station in a cellular communications network, the satellite positioning system ephemeris data issue identifier comprising:

a first field with satellite identifier data; and

a second field with an ephemeris sequence number.

Claims 16-18 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs<sup>2</sup> and the Answer<sup>3</sup> for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make

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<sup>1</sup> See generally Spec. 1:9-12, 4:3-5:12, 5:22-6:2, and 6:8-7:20.

<sup>2</sup> We refer to the Appeal Brief filed February 20, 2007, and the Reply Brief filed August 30, 2007, throughout this opinion.

<sup>3</sup> We refer to the Examiner's Answer mailed July 2, 2007, throughout this opinion.

in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

### **THE §101 REJECTION**

We consider the Examiner's rejection of claims 16-18 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Appellants argue claims 16-18 as a group (App. Br. 3-4). We, therefore, select representative independent claim 16 to decide the appeal. 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner finds that claim 16 is directed to a data structure signal stored on a computer readable medium and that the data structure modulates a carrier signal. The Examiner concludes that the claim is not statutory because "the transmission to the mobile station on a modulate [sic] carrier signal is not sufficient post processing since it has not established a new use of a known process" (Ans. 3). Appellants argue claim 16 is directed to statutory subject matter because the data issue identifier is stored on a computer-readable medium (App. Br. 3-4; Reply Br. 2). Appellants also contend that claim 16 includes a physical or logical relationship between a satellite and its corresponding sequence number of the data issue identifier (App. Br. 4).

### **ISSUE**

The issue is whether Appellants have shown that the Examiner erred in rejected claims 16-18 under 35 U.S.C. § 101 as being directed to nonstatutory subject matter.

### FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Claim 16 recites a data identifier with two fields stored on a computer readable medium.
2. The first field of the data identifier includes satellite identifier data, and the second field of the data identifier includes an ephemeris sequence number (Spec. 5:24 – 6:1).
3. These fields consist of data or information (Spec. 5:22-6:1; Fig. 5)

### PRINCIPLES OF LAW

Under § 101, there are four categories of subject matter that are eligible for patent protection: (1) processes; (2) machines; (3) manufactures; and (4) compositions of matter. 35 U.S.C. § 101. While the scope of patentable subject matter encompassed by § 101 is “extremely broad” and intended to “include anything under the sun that is made by man,” it is by no means unlimited. *In re Comiskey*, 499 F.3d 1365, 1375 (Fed. Cir. 2007) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)). Laws of nature, abstract ideas, and natural phenomena are excluded from patent protection. *Diamond v. Diehr*, 450 U.S. 175, 188 (1981).

“If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’ to the claim, then the claim preamble should be construed as if in the balance of the claim.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). Conversely, a preamble is not limiting when it only states the invention’s purpose or

intended use. *Catalina Marketing Int'l, Inc., v. Coolsavings.com Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

## ANALYSIS

At the outset, we analyze the scope of representative independent claim 16. Appellants argue the recited computer readable medium must be given patentable weight (Reply Br. 2) while the Examiner finds to the contrary (Ans. 4). The preamble of claim 16 recites a data issue identifier stored on computer readable medium. As recited, the identifier is located or stored on the computer readable medium. This portion of the preamble is a structural limitation. Granted, the body of the claim does not make reference to the computer readable medium found in the preamble. However, examining this limitation in the context of the entire claim, the computer-readable medium gives life and meaning to the claim. *See Pitney Bowes*, 182 F.3d at 1305; *see also Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989). We thus disagree with the Examiner's characterization that this portion of the preamble of representative independent claim 16 should not be given patentable weight.

In contrast to the portion of the preamble just discussed, the preamble also recites that the identifier stored on the medium is "for transmission to a satellite positioning system enabled mobile station in a cellular communications network." This portion of the preamble only serves to limit the claim by describing the purpose or intended use of the invention. *See Catalina*, 289 F.3d at 808-09. With the construction of claim 16 set forth, we next consider whether claim 16 is statutory.

Under § 101, there are four categories of subject matter that are eligible for patent protection: (1) processes; (2) machines; (3) manufactures; and (4) compositions of matter. 35 U.S.C. § 101. While the scope of patentable subject matter encompassed by § 101 is “extremely broad” and intended to “include anything under the sun that is made by man,” it is by no means unlimited. *Comiskey*, 499 F.3d at 1375 (quoting *Chakrabarty*, 447 U.S. at 308). For example, laws of nature, abstract ideas, and natural phenomena are excluded from patent protection. *Diehr*, 450 U.S. at 188. Claims to computer-related inventions that are nonstatutory fall into the same general category as all non-statutory claims, and it is the second exclusion noted above -- abstract ideas -- that is relevant to the appeal before us.

As the U.S. Supreme Court has noted, “[a]n idea of itself is not patentable[]’ .... ‘A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.’” *Id.* at 185 (citations omitted). Additionally, our reviewing court recently articulated the following two distinct aspects of abstract ideas:

First, when an abstract concept has no claimed practical application, it is not patentable....  
Second, the abstract concept may have a practical application.... In [the context of industrial processes], the Supreme Court has held that a claim reciting an algorithm or abstract idea can state statutory subject matter only if, as employed in the process, it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter, i.e., a machine, manufacture, or composition of matter.... Thus, a claim that involves both a mental process and one

of the other categories of statutory subject matter (i.e., a machine, manufacture, or composition) may be patentable under § 101.

*Comiskey*, 499 F.3d at 1376-77.

Claim 16 is clearly not a process or composition of matter and, therefore, does not fall into these statutory categories of subject matter eligible for patent protection. We then must consider whether claim 16 is a machine or manufacture. A computer readable medium may be a machine or manufacture. In determining the eligibility of the claimed identifier for patent protection under § 101, claim 16 must be considered as a whole. *See Diehr*, 450 U.S. at 188.

Interpreting claim 16 as a whole, the claim recites a data identifier with two fields stored on a computer readable medium (FF 1). The first recited field includes satellite identifier data, and the second recited field includes an ephemeris sequence number (FF 2). Both of these fields consist of data or information (FF 3) and are no more than an abstraction. Additionally, the intended use recitation to the satellite positioning system mobile station and cellular network in claim 16 recites only the invention's purpose and fails to interrelate physically or functionally the positioning system or mobile station with the recited data. The claim, therefore, includes no operation on, manipulation, or transformation of the first or second field with another class of statutory subject matter.

Moreover, while claim 16 recites the data identifier is stored on a computer readable medium, this does not make the claim statutory. Even though the claimed invention may nominally recite subject matter that falls within the enumerated categories under 35 U.S.C. § 101, the claimed



invention may still not be patentable subject matter if the claim as a whole is directed to an abstract concept. *See Diehr*, 450 U.S. at 185-86; *see also Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989) (“the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter.”)) Specifically, merely reciting data or instructions on a stored computer readable medium does not make a claim patentable. *See Ex parte Langemyr*, Appeal No. 2008-1495, at 28-29 (BPAI, May 28, 2008) (Informative). Permitting such practice would exalt form over substance. *See In re Sarkar*, 588 F.2d 1330, 1333 (CCPA 1978). As explained above, claim 16 only recites data or an abstract idea stored on a computer readable medium. Thus, the recited data identifier of claim 16 having a field with satellite identifier data and another field with an ephemeris sequence number stored on a computer-readable medium does not impart sufficient relationship with either remaining statutory category (i.e., a machine or manufacture) to render the claimed invention eligible for patent protection under § 101.

Finally, an abstract idea which constitutes “descriptive material” is nonstatutory. As USPTO guidelines<sup>4</sup> explain:

[d]escriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a

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<sup>4</sup> Manual of Patent Examining Procedure, Rev. 6, Sept. 2007 (“MPEP”) § 2106.01.

physical or logical relationship among data elements, designed to support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works, and a compilation or mere arrangement of data. Both types of “descriptive material” are nonstatutory when claimed as descriptive material per se[.]

Contrary to the Examiner’s statement that the fields are “functional descriptive material” (Ans. 3-4), we find the descriptive material in claim 16 should be characterized as non-functional descriptive material. As stated above, claim 16 recites a data identifier that includes two fields of data or a mere arrangement of data. Based on the definition set forth in MPEP § 2106.01, claim 16 therefore recites non-functional descriptive material. As claim 16 only nominally recites subject matter that falls within an enumerated category under 35 U.S.C. § 101 and the claim as a whole is directed to an abstract idea, claim 16 is still unpatentable under § 101.

For the foregoing reasons, we will sustain the rejection of representative independent claim 16 and claims 17 and 18 which fall with claim 16.

#### **NEW GROUND OF REJECTION**

Under 37 C.F.R. § 41.50(b), we enter new grounds of rejection under 35 U.S.C. § 101 for claim 27.

The following is a quotation of 35 U.S.C. § 101 which forms the basis for the rejection that the claim is directed to nonstatutory subject matter:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Independent claim 27 is rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Unlike claim 16, claim 27 does not recite a computer readable medium. Rather, claim 27 includes a satellite positioning system navigation data issue identifier value tag. The tag includes a first field with four bits, a second field with four bits, and a data including at least one of ephemeris and almanac data. The recited fields and data are information that forms the valued tag (Spec. 1:29-31; 5:16-19, 6:5-7; 8:9-11; Fig. 4). Thus, the claim recites no more than an arrangement of data or an abstract idea. Such a mere arrangement is per se non-statutory. *See In re Warmerdam*, 33 F.3d 1354, 1361-62 (Fed. Cir. 1994). This compilation of information is also no more than nonfunctional descriptive material and is not given patentable weight. *See* MPEP § 2106.01.

Lastly, as discussed with respect to a portion of the preamble of claim 16, the preamble of claim 27 recites the tag is “for transmission to a satellite positioning system enabled mobile station in a communication network.” This limitation only serves to limit the claim by describing the purpose or intended use of the invention. *See Catalina*, 289 F.3d at 808-09. Moreover, the fields or data of the tag recited in the body of claim 27 do not operate on or transform the mobile station or the communication network recited in the preamble and thus will be given no patentable weight.

For the foregoing reasons, claim 27 does not recite subject matter that falls within an enumerated category under 35 U.S.C. § 101, and the claim is unpatentable.

## CONCLUSION

For the foregoing reasons, Appellants have not shown the Examiner erred in rejecting claims 16-18 as being directed to nonstatutory subject matter. Accordingly, we will sustain the Examiner's rejection of claims 16-18.

## DECISION

The decision of the Examiner to reject the claims is affirmed. We also enter a new ground of rejection under 37 C.F.R. § 41.50(b) for claim 27.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that "[a] new ground of rejection . . . shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED  
37 C.F.R. 41.50(b)

gvw

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